Standards for Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

|  |  |
| --- | --- |
| Domain |  |
| *Cluster* |  |
| Standards |  |
| Content Elaborations  Expectations for Learning | |
| Instructional Strategies | |
| Instructional Resources/Tools | |
| Common Misconceptions | |
| Diverse Learners | |
| Connections | |

Mathematics

Model Curriculum Structure

Common Core State Standards for Mathematics



Review Organizer

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade Level \_\_\_\_\_ *OR* Course \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­ | | | | | |
| Standard | New Content | To Be Deleted | Rigor | New Materials/Resources Needed | Professional Development Needed |
|  |  |  |  |  |  |
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Mathematics Learning Progressions

by Grade Level

**Domains** are larger groups of related standards. Standards from different domains may sometimes be closely related.

|  |  |
| --- | --- |
| Kindergarten:   * Counting and Cardinality * Operations and Algebraic Thinking * Numbers and Operations in Base Ten * Measurement and Data * Geometry   First Grade:   * Operations and Algebraic Thinking * Numbers and Operations in Base Ten * Measurement and Data * Geometry   Second Grade:   * Operations and Algebraic Thinking * Numbers and Operations in Base Ten * Measurement and Data * Geometry   Third Grade:   * Operations and Algebraic Thinking * Numbers and Operations in Base Ten * Numbers and Operations--Fractions * Measurement and Data * Geometry   Fourth Grade:   * Operations and Algebraic Thinking * Numbers and Operations in Base Ten * Numbers and Operations--Fractions * Measurement and Data * Geometry | Fifth Grade:   * Operations and Algebraic Thinking * Numbers and Operations in Base Ten * Numbers and Operations--Fractions * Measurement and Data * Geometry   Sixth Grade:   * Ratios and Proportional Relationships * The Number System * Expressions and Equations * Geometry * Statistic and Probability   Seventh Grade:   * Ratios and Proportional Relationships * The Number System * Expressions and Equations * Geometry * Statistics and Probability   Eighth Grade:   * The Number System * Expressions and Equations * Functions * Geometry * Statistics and Probability |



Another View of Learning Progressions for Mathematics

High School Conceptual Categories

High School: Number and Quantity

* The Real Number System
* Quantities
* The Complex Number System
* Vector and Matrix Quantities

High School: Algebra

* Seeing Structure
* Arithmetic with Polynomials and Rational Equasions
* Creating Equations
* Reasoning with Equations and inequalities

High School: Functions

* Interpreting Functions
* Building Functions
* Linear, Quadratic and Exponential Models
* Trigometric Functions

High School: Modeling

Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. Modeling is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. Quantities and their relationships in physical, economic, public policy, social, and everyday situations can be modeled using mathematical and statistical methods. When making mathematical models, technology is valuable for varying assumptions, exploring consequences, and comparing predictions with data

High School: Geometry

* Congruence
* Similarity, Right Triangles and Trigometry
* Circles
* Expressing Geometric Properties with Equations
* Geometric Measurement and Dimension
* Modeling with Geometry

High School: Statics and Probability

* Interpreting Categorical and Quantitative Data
* Making Inferences and Justifying Conclusions
* Conditional Probability and the Rules of Probability
* Using Probability to Make Decisions

Standards Statements: Define what students should understand and be able to do.

**Clusters:** Clusters summarize groups of related standards. Note that standards from different clusters may sometimes be closely related, because mathematics is a connected subject.

